

Remarks

This Application has been reviewed carefully in light of the Office Action dated October 15, 2009. Applicants believe all claims are allowable without amendment and respectfully provide the following remarks. Applicants respectfully request reconsideration and allowance of all pending claims.

I. The Claims are Allowable over the Proposed Keller1-Keller2-Replacement Instructions Combination

The Examiner rejects Claims 1-24 under 35 U.S.C. § 103(a) as being unpatentable over Axel Keller et al., et al., *Scheduling in HPC Resource Management Systems: Queuing vs. Planning*, PROCEEDINGS OF THE 9TH WORKSHOP ON JOB SCHEDULING STRATEGIES FOR PARALLEL PROCESSING, Seattle, WA, pages: 1-19, 6-2003 ("Keller1"), and Keller and Reinefeld, *Anatomy of a Resource Management System for HPC Clusters*, Vol. 3, 2001 ("Keller2"), as multiple reference in view of Cisco Systems, *Cisco 12012 Gigabit Switch Router Switch Fabric Cards Replacement Instructions* ("Replacement Instructions"). Applicants respectfully traverse these rejections and discuss independent Claim 1 as an example.¹ Applicants reiterate below the arguments presented in Applicants' Previous Response and then address the Examiner's responses to those arguments.

The cited references fail to disclose, teach, or suggest each and every limitation of Claim 1. For example, the cited references fail to disclose, teach, or suggest "determining an original subset of a plurality of nodes, the original subset comprising nodes currently unallocated to a job, each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card" as recited in Claim 1. In rejecting Claim 1, the Office Action asserts that the "switching fabric" and "processors" in Claim 1 are not "patentable features." (See Previous Office Action, p. 3). Specifically, the Office Action asserts: "This element does nothing to a method for determining an original

¹ In response to Applicants' previous arguments, the Examiner states, "Examiner discerns that Applicants require the recitation 'switching fabric integrated to a card and at least two processors integrated to the card' as the whole argument in which Applicants regard as their invention." (Office Action, p. 3). Applicants do not necessarily agree with the implication of the Examiner's statement. Applicants have chosen an example distinction between Applicants' independent claims and the cited references. Other distinctions may exist and Applicants reserve the right to discuss these distinctions in a future Response or on Appeal, as appropriate. Additionally, Applicants do not necessarily agree that the Examiner's characterization represents the whole of Applicants' argument or of Applicants' claimed invention.

subset of a plurality of nodes; in which the method solely results with selecting a job from a job queue; and executing the selected job using at least a portion of the original subset.” (Previous Office Action, p. 3). Applicant respectfully disagrees. Contrary to the assertion that the switching fabric “does nothing,” Claim 1 recites that the “switching fabric allow[s] node to node communication during execution of a job.” With respect to the processors, Claim 1 recites “executing the selected job using one or more processors of one or more nodes.” Therefore, the Examiner should not disregard the portion of Claim 1 that recites “each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card.”

As explained in Applicants’ previous Response, *Keller1* and *Keller2* fail to disclose, teach, or suggest “determining an original subset of a plurality of nodes, the original subset comprising nodes currently unallocated to a job, each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card” as recited in Claim 1. The cited portion of *Keller1* discloses a resource management system (RMS) for high performance computing (HPC) machines. (*Keller1*, pp. 1, 6; fig. 2). In particular, the cited portion of *Keller1* discloses using the RMS to negotiate a resource request. (*Keller1*, fig. 2). Thus, the Office Action seems to equate the HPC machines in *Keller1* with the “plurality of nodes” in Claim 1. (Previous Office Action, p. 5). Even assuming for the sake of argument that the HPC machines in *Keller1* could be properly considered “a plurality of nodes” as recited in Claim 1 (which Applicants do not admit), *Keller1* would still fail to disclose, teach, or suggest any of the HPC machines in *Keller1* “comprising a switching fabric integrated to a card and at least two processors integrated to the card” as recited in Claim 1.

In view of *Keller1*’s deficiencies, the Office Action cites a portion of *Keller2* that discloses a cluster consisting of two frontend computers, an Ethernet switch, and 32 compute nodes. (*Keller2*, p. 20). Even assuming for the sake of argument that the Ethernet switch in *Keller2* could properly be considered “a switching fabric” as recited in Claim 1, *Keller2* would still fail to disclose, teach, or suggest “each node in the plurality of nodes comprising” the Ethernet switch, as recited in Claim 1. (Emphasis added). Instead, in *Keller2*, the Ethernet switch is completely separate from the two frontend computers and from the 32 compute nodes, which tends to teach away from the arrangement recited by independent

Claim 1. (*Keller2*, p. 20). Moreover, even assuming again for the sake of argument that the Ethernet switch could properly be considered “a switching fabric” as recited in Claim 1, *Keller2* would still fail to disclose, teach, or suggest that the Ethernet switch is “integrated to a card,” there being “at least two processors integrated to” the same card. (Emphasis added). Therefore, *Keller1* and *Keller2* fail to disclose, teach, or suggest, either expressly or inherently, “determining an original subset of a plurality of nodes, the original subset comprising nodes currently unallocated to a job, each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card” as recited in Claim 1.

In response to Applicants’ previous arguments, the Examiner cites a definition of the term “switching fabric” from the web site <http://searchstorage.techtarget.com>.² First, Applicants do not concede that this definition is an appropriate definition for the claim term “switching fabric” or that the cited definition qualifies as prior art. Second, the Examiner’s argument is not entirely clear to Applicants. The Examiner cites the above-discussed definition, and then argues that “Kelly (sic) teachings meet the definition of Whatis, where within this discussion Kelly2 shows a switch system of a combination software (See Figure 14) and the hardware (See Figure 13) that moves data between nodes in a network nodes.” (Office Action, p. 3-4). Whether or not this is true, the Examiner still has not shown how either *Keller1* or *Keller2* (or their proposed combination) disclose, teaches, or suggests “determining an original subset of a plurality of nodes, the original subset comprising nodes currently unallocated to a job, **each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card**,” as recited in Claim 1.

As discussed above, even assuming for the sake of argument that the HPC machines in *Keller1* could be properly considered “a plurality of nodes” as recited in Claim 1 (which Applicants do not admit), *Keller1* would still fail to disclose, teach, or suggest any of the HPC machines in *Keller1* “comprising a switching fabric integrated to a card and at least two

² Respectfully, the Examiner’s allegation that “Applicants’ argument is only a generic allegation without any explanation” is incorrect. (Office Action, p. 4). In the Previous Response, Applicants identified example limitations from Applicants’ claims that are missing from the cited references, identified what the cited portions of the cited references actually disclose, and explained how those cited portions fail to disclose, teach, or suggest the identified example limitations from Applicants’ claims. Indeed the Examiner apparently found those arguments convincing as the Examiner changed the rejection in response to those arguments.

processors integrated to the card” as recited in Claim 1. Furthermore, even assuming for the sake of argument that the Ethernet switch in *Keller2* could properly be considered “a switching fabric” as recited in Claim 1, *Keller2* would still fail to disclose, teach, or suggest “each node in the plurality of nodes comprising” the Ethernet switch, as recited in Claim 1. (Emphasis added). Instead, in *Keller2*, the Ethernet switch is completely separate from the two frontend computers and from the 32 compute nodes. (*Keller2*, p. 20). Moreover, even assuming again for the sake of argument that the Ethernet switch could properly be considered “a switching fabric” as recited in Claim 1, *Keller2* would still fail to disclose, teach, or suggest that the Ethernet switch is “integrated to a card,” there being “at least two processors integrated to” the same card. (Emphasis added). The definition cited by the Examiner does not make up for these deficiencies of *Keller1* and *Keller2*. If the Examiner continues to rely on the cited definition of “switching fabric,” Applicants respectfully request that the Examiner describe in greater detail the Examiner’s purpose in citing the definition.

The Examiner then adds the *Replacement Instructions* to the proposed combination, apparently acknowledging that *Keller1* and *Keller2* do not mention the switches or cards as of a switching fabric but alleging that the *Replacement Instructions* “shows switch fabric, switch fabric card, used as the endpoints of Route processors (RP), where a RP executes a job received from such a switch via a scheduler (see Cisco. P.3: three bold dots and ‘Switch Fabric Card’, and see p. 10, fabric switch). Even assuming the *Replacement Instructions* disclose a “switching fabric” of the type recited in Claim 1 (which Applicants do not concede), the proposed combination of references would still fail to disclose “each node in the plurality of nodes comprising a switching fabric integrated to a card and at least two processors integrated to the card, the switching fabric allowing node to node communication during execution of a job,” as recited in Claim 1.

Additionally, Applicants do not admit that the proposed combination of references is even possible or that the Examiner has provided an adequate explanation, either in the cited references or in the knowledge generally available to one of ordinary skill in that the art at the time of Applicants’ invention, to combine or modify these references in the manner the Examiner proposes. Applicants reserve the right to discuss this deficiency in a future Response or on Appeal, if appropriate.

In rejecting Claims 9 and 17, the Office Action employs rationale similar to that used to reject Claim 1. Accordingly, for reasons analogous to those stated above with respect to amended Claim 1, Applicants respectfully request reconsideration and allowance of amended Claims 9 and 17 and their respective dependents.

II. Request for Evidentiary Support

Should a rejection based on any of the above asserted rejections be maintained, Applicants respectfully request appropriate evidentiary support. Additionally, if the Examiner is relying upon "common knowledge" or "well known" principles to establish the rejection, Applicants request that a reference be provided in support of this position pursuant to M.P.E.P. § 2144.03. Furthermore, to the extent that the Examiner maintains any rejection based on an "Official Notice" or other information within the Examiner's personal knowledge, Applicants respectfully request that the Examiner cite a reference as documentary evidence in support of this position or provide an affidavit in accordance with M.P.E.P. § 2144.03 and 37 C.F.R. 1.104(d)(2).

III. No Waiver

All of Applicants' arguments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the references cited by the Examiner. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicants are sufficient to overcome the Examiner's rejections.

Conclusion

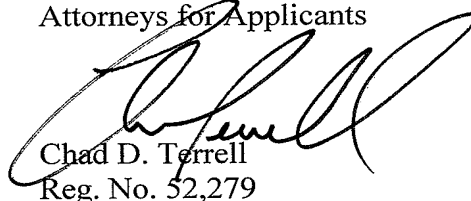
Applicants have made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicants respectfully request full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Chad D. Terrell, Attorney for Applicants, at the Examiner's convenience at (214) 953-6813.

As indicated in the concurrently-filed Request for Extension of Time, the Commissioner is hereby authorized to charge the one-month extension-of-time fee of \$130.00 to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P. Although Applicants believe no fees are due, the Commissioner is hereby authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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